SUPPORT FOR THE AMENDMENTS

Claim 11 has been amended to specify the subject matter of Claim 13, now canceled. Accordingly, no new matter is believed to have been added to the present application by the amendments submitted above.

REMARKS

Claims 2, 3, 7, 8, 11, 12 and 14-19 are pending. Favorable reconsideration is respectfully requested.

The present invention relates to a method of producing a plate polymer obtained from a polymerizable raw material comprising methyl methacrylate, said method comprising using a belt type continuous plate manufacturing apparatus, which apparatus comprises two endless belts so placed that their facing belt surfaces run toward the same direction at the same speed, and continuous gaskets running under condition of being sandwiched by belt surfaces at their both side edge portions, wherein the polymerizable raw material is fed into a space surrounded by the facing belt surfaces and the continuous gaskets from its one end, the polymerizable raw material is solidified together with running of the belts in a heating zone, and the plate polymer is taken out from the other end, wherein

a plurality of upper and lower roll pairs each composed of an upper roll in contact with the upper surface of the upper belt and a lower roll in contact with the lower surface of the lower belt and having axes orthogonally crossing the belt running direction are placed along the belt running direction as a belt surface holding mechanism for the endless belts facing each other and running in the heating zone, the outer diameter D of the roll body portion of the upper and lower roll pairs is in the range of 100 mm to 500 mm,

polymerization proceeds in the heating zone and a temperature peak caused by heat of polymerization is attained at a position in said zone, and at least 4% of the total number of upper and lower roll pairs placed between the raw material feeding end and the position of said temperature peak contain a lower roll body portion having a crown shape. See Claim 11. An important feature of Claim 11 is that 30 to 90% of the total number of upper and lower roll pairs placed between the inlet of the heating zone and the position of said temperature

peak contain a lower roll body portion having a crown shape. See the last three lines of Claim 11.

The rejections of the claims under 35 U.S.C. §103(a) over Kato et al. alone and in combination with Whittum or Jensen et al. are respectfully traversed. The cited references fail to suggest the claimed method.

The Examiner has taken the position that Kato et al. disclose a method for producing a sheet of polymer using two continuous belts and rollers with a crown shape as seen in Figure 17. See pages 2-3 of the Office Action.

In the present invention, the roll body portion has a crown shape because the roll body portion directly effects in the shape of plate polymer. In contrast, Kato et al. teaches only a roll having flexible shafts able to be in a crown shape in Figure 17. The body portion of roll taught by Kato et al. is not a crown shape.

The flexible shafts taught by Kato et al. actively bend in supporting the load from the belts and effect in improvement of accuracy of plate's thickness. In contrast, in the present invention, when the roll body portion of the lower roll is deflected by the self-weight of the lower roll, the crown shape can remedy the transformation and effect in improvement of accuracy of plate's thickness. Consequently, the present invention is very different from Kato et al. as a technical idea.

The Examiner has also taken the position that Whittum discloses forming rolls with a crown shape in Figures 1-9 to produce a part with uniform thickness, and it is obvious to use the crown rolls of Whittum in the process of Kato et al.. See paragraph 5b of the Office Action.

However, in the present invention, the roll having a roll body portion in a crown shape is a "lower roll" of the upper and lower roll pair. The present inventors considered that the self-weight of lower roll causes a decline of accuracy of plate's thickness. This problem

can be solved by the crown shape of roll body portion of lower roll. Consequently, the shape of roll body portion of "lower roll" is very important. In contrast, Whittum teaches the upper and lower rolls having the same shape each other, and does not teach a method for solving the problem caused by the self-weight of lower roll.

The subject matter of Claim 13 means that upper and lower roll pairs with the lower roll portion having a crown shape are placed in a district of 30% to 90% during 0 to 100% of district from an inlet of a heating zone to a position showing a peak by heat polymerization in the process in which the polymerizable raw materials is solidified while running with the belt. This specifies the "positions" of the lower rolls with having a roll body portion in a crown shape. In the district of 30% to 90%, the material is not sufficiently cured, and the shape of material significantly effected by the roll shape. The cited references fail to suggest this feature.

Claims 14 and 15 have been rejected over Kato et al. in view of Jensen et al. Since Claim 11 now includes the subject matter of Claim 13, which was not rejected, this rejection is believed to be moot.

In view of the foregoing, the claimed method is not obvious over Kato et al. alone and in combination with Whittum or Jensen et al. Accordingly, withdrawal of these grounds of rejection is respectfully requested.

Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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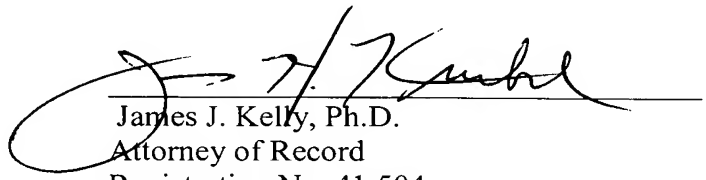

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